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Revision of the genus *Plesiochara* Sawada (Coleoptera: Staphylinidae: Aleocharinae)

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Abstract

The Japanese species of the genus *Plesiochara* Sawada, 1989 (tribe Aleocharini) are revised. Four species are recognized from Japan: *Plesiochara japonica* (Sharp, 1874) **comb. nov.** (removed from *Ocalea* Erichson), *P. nitida* Sawada, 1990, *P. inflexa* **sp. nov.** and *P. rufula* **sp. nov.** *Plesiochara fusca* Sawada, 1989 is synonymized with *P. japonica*, **syn. nov.** All species are described or redescribed, and a key is provided.

Key words: Aleocharini, Palearctic, new species, redescription

Introduction

The genus *Plesiochara* Sawada, 1989 belongs to the tribe Aleocharini (Coleoptera, Staphylinidae, Aleocharinae) and included only two species confined to Japan: *Plesiochara fusca* Sawada, 1989, *P. nitida* Sawada, 1990. The descriptions of the species were based on a few specimens collected from each type locality; and no subsequent taxonomic treatment of this genus has been published since. The members of the genus are large, conspicuous aleocharines commonly found on mushrooms and decaying organic material, mainly in autumn to winter. In this paper, based on hundreds of specimens, we revise the Japanese species of *Plesiochara* taxonomically and recognize four species. We propose one new combination and one new synonym, describe two new species, redescribe two species, provide a key to species, and discuss their distributions and habitats.

Material and methods

Most specimens examined are deposited in the Kyushu University Museum, Fukuoka, Japan (KUM); and some in the Natural History Museum and Institute, Chiba, Japan (CBM), Otaru Museum, Hokkaido, Japan (OM), Hiwa Museum of Natural History, Hiroshima, Japan (HMNH), Tateo Ito private collection (cI), and Hiroshi Ooki private collection (cO). MM also examined type specimens of the Japanese aleocharines for comparison in the Natural History Museum, London, UK (BMNH).

Dissection, observations, and measurements of external characters were made under a stereomicroscope (SZ-40, ×10.05–60; Olympus), and observations and drawings of dissected parts were made under a transmission microscope (BH-2, 50–750; Olympus) with a drawing tube. Genital parts were warmed in 10% KOH (10–60 min at 60°C) and cleaned in water (1 min). Aedeagus were dehydrated in 70% (10 min) and 99% (1 min) ethanol, and then mounted in Euparal dropped on a slide glass and observed (Maruyama 2004). Spermathecae were observed in water after warming in KOH solution. Dried specimens were measured using a stereomicroscope with an eyepiece micrometer, and recorded to two significant digits from 60 to 99 and calculated in millimeters. Habitus was photographed with a digital camera (α7R IV; Sony) with a macro lens (MP-E 65 mm F2.8 1–5x; Canon); abdominal segments and genital parts were photographed with a digital camera (EOS kiss X8i; Canon) attached to a transmission microscope

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(BX50; Olympus). Dozens of photographs taken at different depths were combined using Zerene Stacker (1.04). As the right antenna of *P. nitida* in Figure 4 was missing, we synthesized the left antenna from the right.

The data were modified for easy recognition; the locations represented remained the same.

Abbreviations for measurements used in this paper are as follows: BL = length of body from apex of clypeus to hind margin of tergites VII; FBL = length of body from apex of clypeus to posterior margin of elytral at midline suture; HL = head length from clypeus to posterior margin except for preocciput; HW = head width; PL = pronotal length; PW = pronotal width; EL = elytral length from base to posterolateral corner in lateral view; EW = elytral width; HTL = hind tibia length. Measurements are in millimeters.

Taxonomy

Genus *Plesiochara* Sawada, 1989

Japanese common name: Kusabira-hanekakushi-zoku

Plesiochara Sawada, 1989: 304 [original description, type species: *Plesiochara fusca* Sawada, 1989].

Diagnosis. This genus is distinguished from the other genera of Aleocharini by the combination of the following character states: body elongate; head, pronotum, mesoventrite, metaventrite, abdominal sternites, elytra, and legs covered with setae rather densely; labial palpus with segment II longer, with setae *e*, *f* located far remote from *mp* (Sawada 1989: Fig. 14C); pronotum almost hexagonal; hypomera visible in lateral view; elytra longer than pronotum; inner coxal process of mesoventrite narrow, elongate, reaching beyond the half of mesocoxal cavities; surface of fore and middle tibia not covered with spines; median lobe of aedeagus fusiform; apical lobe rather thin from lateral view, dilated at apical in ventral view; internal sac composed of multiple sclerites; one pair of sclerites 1 (sc1) located near apex of apical lobe; one pair of sclerites 2 (sc2) located dorsal side of sclerites 1, oval at anterior part and arm-shaped at posterior part; sclerite 3 (sc3) located basal side of sclerites 2; flagellum long, curved ventrally and bifurcated at base; spermatheca with capsule (ca) spherical or ovate: chamber (ch) short, simple.

Remarks. This genus is well characterized by the structure of aedeagus: shapes of sclerites 1–3 and flagellum as mentioned above though their polarities are unknown. *Plesiochara* is similar to *Pseudocalea* Luze in general appearance, but can be separated by the structure of aedeagus and short chamber of spermatheca.

Plesiochara japonica (Sharp, 1874) comb. nov.

Japanese common name: Kusabira-hanekakushi

(Figs 1A–F, 2, 3, 12A)

Ocalea japonica Sharp, 1874: 4 [original description, type locarity: Copper temple, Nagasaki]; Bernhauer & Scheerpeltz, 1926: 731 [catalogue, as subgenus *Ocalea*]; Smetana, 2004: 475 [catalogue, as subgenus *Ocalea*]; Shibata *et al.*, 2013: 121 [catalogue]; Schülke & Smetana, 2015: 694 [catalogue].

Plesiochara fusca Sawada, 1989: 304 [original description, type locality: Minoo, Osaka Pref.]; Smetana, 2004: 361 [catalogue]; Shibata *et al.*, 2013: 106 [catalogue]; Schülke & Smetana, 2015: 505 [catalogue]. **Syn. nov.**

Redescription. Body elongate; head, thorax and abdomen dark brown; antennae dark reddish brown, with basal part paler; mouth parts and legs reddish yellow; elytra reddish yellow with posterolateral portion darker; head, thorax, abdominal sternites, elytra, and legs covered with setae rather densely; abdominal tergites sparsely covered with setae; dorsal surface of head and pronotum densely covered with reticulation; elytra weakly rugose; abdominal tergites glossy.

Head circular, slightly longer than or as long as wide; postocular parts roundly narrowed toward base; eyes ovate. Antennae slender, longer than a combination of head and pronotum; segments IV–V slightly longer than wide; segments VI–VII as long as wide; segments VIII–IX slightly transverse; segments X as long as wide; segments XI ovate.

Pronotum almost hexagonal, slightly wider than long; anterior margin widely rounded; lateral margin moderately rounded, narrowed more strongly to posterior than anterior; anterior corners rounded; posterior corners obtusely roundly angulated; hypomera visible in lateral view, with posterior part of carina (Fig. 12A) directed posteriorly almost parallel to lateral margin.

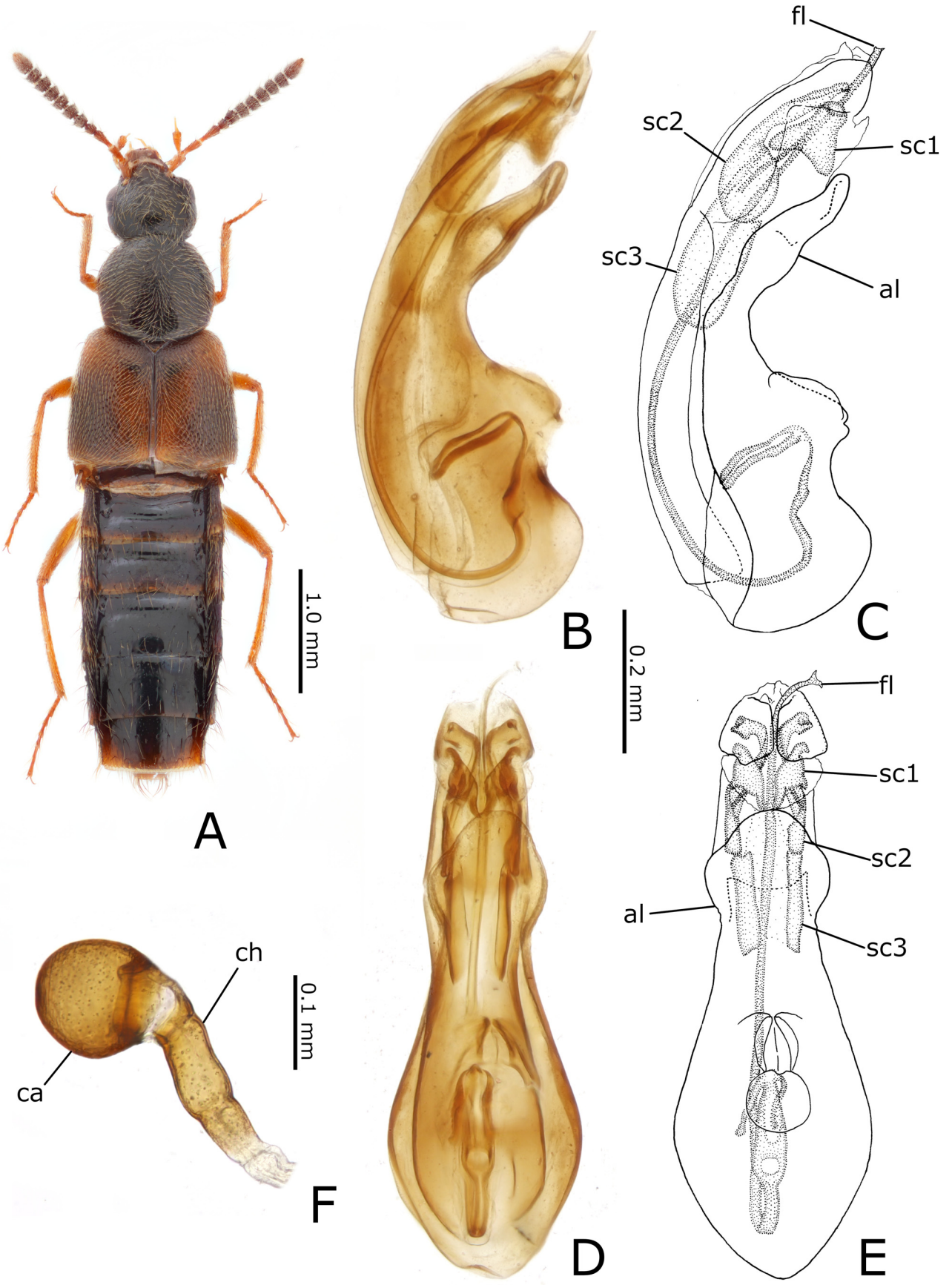

FIGURE 1. *Plesiochara japonica* **comb. nov.**: A, dorsal habitus; B–C, median lobe of aedeagus, lateral view; D–E, ditto, ventral view; F, spermatheca.

Mesoventrite (Fig. 2A) shortly carinate at base of midline; inner coxal process narrow, elongate, reaching to metaventrite process. Metaventrite (Fig. 2A) with inner coxal process short, moderately narrow.

Elytra wider than long, longer and wider than pronotum, weakly diverging to posteriorly, widest near posterolateral corners; hind margin sinuate near posterolateral corners. Hind wings developed.

Abdomen moderately elongate, parallel sided; tergites III–VII with small pores at basal impression; VIII tergite (Fig. 2B) with posterior margin smooth, shallowly emarginate medially in both sexes. VIII sternum with posterior margin smooth, widely rounded in both sexes (Fig. 2C).

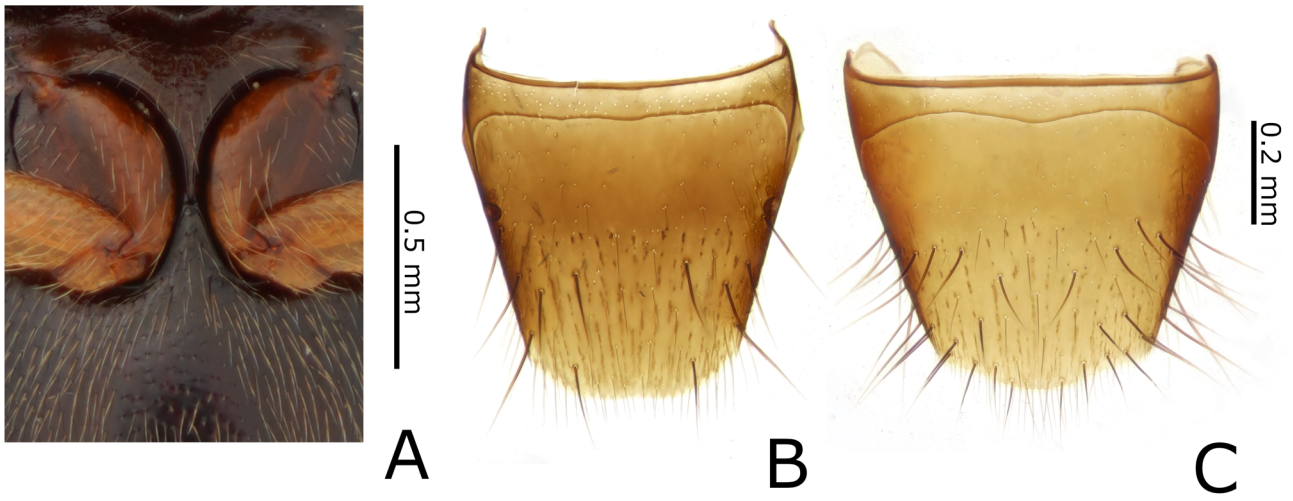

FIGURE 2. *Plesiochara japonica* **comb. nov.**: A, mesoventrite and metaventrite; B, male tergite VIII; C, male sternite VIII.

Legs slender, rather long (HTL/PL = 1.13–1.20); surface of fore and middle tibia not covered with spines; hind tarsal segments I as long as or slightly longer than a combination of II and III.

Male: Median lobe of aedeagus (Fig. 1B–E) rather small; apical lobe dorso-laterally rather thick, weakly curved dorsally at apex, bisinuate at ventral margin, dilated laterally at apical, rather strongly constricted at middle in ventral view; sclerites 1 (sc1) with posterior margin strongly convex and curved laterally; anterior margin widely emarginate.

Female: Spermatheca (Fig. 1F) with capsule spherical.

Measurements. BL 4.3–4.9, FBL 2.60–2.77, HW 0.68–0.70, HL 0.72–0.75, PW 0.85–0.97, PL 0.83–0.86, EW 1.15–1.39, EL 1.01–1.15, HTL 0.92–1.01.

Type material. ***Ocalea japonica***: **lectotype**, here designated, male, "Type [RRL]//Japan (YRLS)//Japan./G. Lewis//Sharp Coll.//1905-313.//Ocalea/japonica/type D. S.//Lectotype/Ocalea japonica/Sharp, 1874/des. Maruyama, 2011" (abdominal segments VIII-X and aedeagus were dissected and mounted in Euparal by MM) (PL, 0.85; PW, 0.86; HTL, 1.07) (BMNH).

Specimens examined. JAPAN: **Honshu**: **[Gunma Pref.]**: 2 unsexed, Nishiyama-rindô, Sôri, Azuma-mura, Seta-gun, 21.V.2005, T. Horiguchi leg. (KUM); 1 unsexed, Nagamine-shizen koen, Ikaho-chô., 13–18.IV.2003, K. Kanai leg. (KUM); 1 male, Ôya, Annaka-shi, 22.IV.2003, T Watanabe leg. (KUM); 1 female, 3 unsexed, Motojuku, Agatsuma-machi, 15.V.2005, T. Watanabe leg. (KUM); **[Saitama Pref.]**: 1 male, Irikawa, Ôtaki, Chichibu-shi, 3.XI.1991, M. Uchida leg. (KUM); 1 female, 1 unsexed, Mt. Kumakura-san, Chichibu-shi, 3.XI.1990, H. Oda leg. (KUM); 3 unsexed, Kuroyama-santaki, Ogose-machi, Iruma-shi, 3.IV.1983, H. Oda leg. (KUM); **[Tokyo Met.]**: 1 unsexed, Mt. Takao-san, Hachiôji-shi, 16.IV.1962. Y. Shibata leg. (KUM); 1 unsexed, ditto, 24.V.1963, Y. Shibata leg. (KUM); 1 unsexed, Setagaya-ku, 25.II.1960, Y. Shibata leg. (KUM); 1 female, 1 unsexed, Machida-shi, 29.XI.1986, M. Tao leg. (KUM); 1 male, Mt. Mitake-san, Ôme-shi, 29.VI.1962, Y. Shibata leg. (KUM); **[Chiba Pref.]**: 2 males, 10 unsexed, Yata, Shiroi-shi, 14.XI.1989, T. Takeda leg. (KUM); 1 unsexed, Koura, Onjuku-machi, 23.XII.1989, T. Takeda leg. (KUM); 2 unsexed, Mt. Nagara, Nagara-machi, 14.XI.1992, T. Takeda leg. (KUM); 1 unsexed, Kuramochi, Chônan-machi, 4.XI.1992, T. Takeda leg. (KUM); 2 unsexed, ditto, 23.XI.1992, T. Takeda leg. (KUM); 1 unsexed, Mineoka-asama-yama, Kamogawa-shi, 27.IV.1997, S. Nomura leg. (KUM); 6 unsexed, Niaorikawa, Kiwadabata, Kimitsu-shi, 13.III–5.VI.2013, A. Saito leg., by underground trap (NHMC); 5 unsexed, Honzawa. Kiyosumi, Kamogawa-shi, 4. XII.2013–22.V.2014, A. Saito leg. (NHMC); 1 unsexed, Maezawa Hodou, Kiwadabata, Kimitsu-shi, 17.IV.2013, A. Saito leg. (NHMC); **[Kanagawa Pref.]**: 1 unsexed, Jike-chô, Aoba-ku,

Yokohama-shi, 23.XI.2015, H. Ooki leg. (KUM); 1 unsexed, Motoishikawa, Aoba-ku, Yokohama-shi, 24.III.2019, H. Ooki leg. (KUM); 1 unsexed, ditto, 1.III.2021, H. Ooki leg. (KUM); 1 unsexed, Kurogane-chô, Aoba-ku, Yokohama-shi, 14.III.2014, H. Ooki leg. (KUM); 3 unsexed, Niiharu-chô, Midori-ku, Yokohama-chô, 19.XI.2010, H. Ooki leg. (KUM); 1 unsexed, ditto, 20.XI.2011, H. Ooki leg. (KUM);1 unsexed, Miho, Midori-ku, Yokohama-shi, 27.XI.2013, H. Ooki leg. (KUM); 1 unsexed, Midori-ku, Yokohama-shi, 5.V.1987, M. Tao leg.; 1 unsexed, Sengenyama, Nakai-machi, 7.XII.2005, T. Watanabe leg. (KUM); 2 unsexed, Mt. Kôbo-yama, Hadano-shi, 15.XI.1989, T. Watanabe leg. (KUM); 2 unsexed, near Bodai, Tanzawa, Hadano-shi, 29.IV.1970, Y. Shibata leg. (KUM); 1 unsexed, Near Ôkura, Tanzawa, Hadano-shi, 29.IV.1973, Y. Shibata leg. (KUM); 1 male, 3 unsexed, Mt. Ishihodoyama, Nishi-tanzawa, Yamakita-machi, 9.X.1995, T. Watanabe leg. (KUM); 2 male, 7 unsexed, Fudakake, Tanzawa, Kiyokawa-mura, 6.XI.1993, T. Watanabe leg., from animal dropping (KUM); 5 unsexed, ditto, 19.X.2000, T. Watanabe leg. (KUM); 1 unsexed, Dôdaira, Tanzawa, Kiyokawa-mura, 10.X.1987, Y. Hirano leg. (KUM); 1 unsexed, Near Dohdaira, Tanzawa, Kiyokawa-mura, 10.X.1987, Y. Shibata leg. (KUM); 2 unsexed, Mt. Ôyama, 6.XI.1960, Y. Shibata leg. (KUM); 1 unsexed, ditto, 23.XI.1967, Y. Shibata leg. (KUM); 1 unsexed, ditto, 23.X.1969, R. Kiryu leg. (KUM); **[Ishikawa Pref.]**: 2 unsexed, Komagaeri, Kanazawa-shi 20.IV.1961, Y. Hayashi leg. (KUM); 1 unsexed, 1 female, Kodatsuno, Kanawaza-shi, 13.III.1962, Y. Hayashi leg. (KUM); **[Nagano Pref.]**: 1 unsexed, Utsukushi, 1.V.1960, Y. Shibata leg.; 1 unsexed, Shimashimadani, Matsumoto-shi, 800 m, 4–7.V.2008, H. Asaki leg. (KUM); 1 unsexed, ditto, 800 m, 21–26.V.2008, H. Asaki leg. (KUM); 2 unsexed, ditto, 800 m, 10–16, X.2008, H. Asaki leg. (KUM); **[Yamanashi Pref.]**: 2 unsexed, Nagasaku, Kosuge-mura, 19.X.1990, T. Watanabe leg. (KUM); 8 unsexed, Maruno-machi, 25.IV.1993, K. Hosoda leg. (cI); **[Gifu Pref.]**: 1 unsexed, Hongô-chô, Seki-shi, 17.III.1980, Y. Takai leg. (KUM); **[Shizuoka Pref.]**: 1 male, 3 unsexed, Mt. Amagi-san, Higashiizu-chô, 18.V.1959, K. Mizusawa leg. (KUM); 2 unsexed, same data, Y. Shibata leg. (KUM); 1 unsexed, ditto, 4.V.1959, Y. Nagashima leg. (KUM); 1 female, same data, K. Ishida leg. (KUM); 1 male, Amagi-tôge pass, 27.X.1985, S. Nomura leg. (KUM); 1 unsexed, Abe-river, 17.XI.1984, M. Tao leg.; **[Mie Pref.]**: Hirakura, Tsu-shi, 20.XI.1994, T. Ito leg., from mushroom (cI); 2 unsexed, ditto, 19.XI.1994, K. Mizuno leg. (cI); **[Kyoto Pref.]**: 1 unsexed, Maizuru-shi, 11.IV.1998, T. Ito leg. (cI); 2 unsexed, Nyou, Maizuru-shi, 5.XI.2003, K. Yasukawa and T. Murao leg. (cI); 1 unsexed, Iwakura, Sakyô-ku, Kyoto-shi, 5.XI.1980, T. Ogata leg. (KUM); 1 male, 1 female, Kurama, Sakyô-ku, Kyoto-shi, 1.XI.1964, T. Ito leg. (KUM); 1 unsexed, Kibune, Sakyô-ku, Kyoto-shi, 29.IV.1958, Y. Shibata leg. (KUM); 1 unsexed, ditto, 2.V.1959, T. Ito leg. (KUM); 2 unsexed, ditto, 1.XI.1964, T. Ito leg. (KUM); 1 male, Kibune, Yamashiro, 19.VI.1929, T. Esaki leg.; 2 male, 1 female, 23 unsexed, Otokoyama, Yawata-shi, 24.II.2011, T. Ito leg., by rotten vegetables trap (KUM, cI); 5 unsexed, Hanase, Sakyô-ku, Kyoto-shi, 26.X.1991, T. Ito leg, from mushroom. (KUM); **[Ôsaka Pref.]**: 1 unsexed, Minoo-shi, 2.IV.1959, K. Ueda leg. (KUM); 1 male, 1 female, 1 unsexed, ditto, 4.IV.1959, K. Ueda leg. (KUM); 3 unsexed, ditto, 13.IV.1958, Y. Hayashi leg. (KUM); 1 female, Mt. Makio-san, Izumi-shi, 23.IV.1960, Y. Kimura leg. (KUM); 1 unsexed, Hiraoka, Sakai-shi, 26.III.1961, Y. Hayashi leg. (KUM); **[Nara Pref.]**: 1 male, Kasuga, 4.XI.1964, T. Ito leg. (KUM); 20 unsexed, Nara-park, Nara-shi, 10.XI.2009, T. Ito leg., from mushroom (KUM); **[Wakayama Pref.]**: 1 male, Onoda, Kainan-shi, 13.IV.1993, M. Kitabata leg. (KUM); 3 unsexed, Fujishirozaka, Kainan-shi, 23.III.1993, K. Harusawa leg. (cI); 1 unsexed, Higashihonjô, Minabe-chô, 7.III.2019, I. Matoba leg. (cI); 1 unsexed, Ôsumi, Kimino-chô, 7.IV.1979, H. Hiramatsu leg. (cI); **[Tottori Pref.]**: 1 male, Mt. Daisen, 8.XI.1977, S. Naomi leg. (KUM); **[Okayama Pref.]**: 1 male. 1 female, 8 unsexed, Okutsugawa-keikoku, Kamo-chô, Tomata-gun, 26.X.2003, Y. Fujitani leg. (KUM); 1 unsexed, ditto, 23.XI.2003, Y. Fujitani leg. (KUM); 1 unsexed, ditto, 7.XII.2003, Y. Fujitani leg. (KUM); 1 unsexed, Mumyô-dani, Tetta-chô, Atetsu-gun, 19.X.2003, Y. Fujitani leg. (KUM); **[Yamaguchi Pref.]**: 1 female, 4 unsexed, Nodani, Tokuji-chô, Saba-gun, 31.III.2004, Y. Fujitani leg. (KUM); 4 unsexed, ditto, 10.IV.2004, Y. Fujitani leg. (KUM); 1 female, ditto, 15.IV.2004, Y. Fujitani leg. (KUM); 1 male, 1 unsexed, ditto, 30.IV.2004, Y. Fujitani leg. (KUM); **Shikoku**: **[Tokushima Pref.]**: 1 female, Mt. Tsurugi-san, 15–17.X.1980, S. Naomi leg. (KUM); 1 female, Mt. Maruzasa-yama (alt. 1410 m), Ichiu-son, Tsurugi-machi, 11.VI–6.VIII.2000, M. Yoshida leg., fowl trap (KUM). **[Ehime Pref.]**: 1 female, 1 unsexed, Riverside of Fukumigawa river, Matsuyama-shi, 27.XI–3.XII.1986, M. Hiraoka leg. (KUM); 3 unsexed, ditto, 5–9.XI.1986, M. Hiraoka leg. (KUM); 3 unsexed, Fukumi, Matsuyama-shi, 5–9.XI.1986, M. Hiraoka leg. (KUM); **Kyushu**: **[Fukuoka Pref.]**: 32 male, 12 female, 111 unsexed, Tachibana-yama, Fukuoka-shi, 27.XI.1983, S. Naomi leg. (KUM); 33 unsexed, ditto, 7.V.1980, S. Naomi leg. (KUM); 3 male, 3 unsexed, Mt. Hiko-san, Soeda-machi, 24.X.1974, M. T. Chujo leg. (KUM); 1 unsexed, ditto, 4.XI.1971, K. Takeno leg., from *Omphalotus japonicus* (Kawam.) Kircham. & O. K. Mill. (KUM); 1 unsexed, ditto, 19.XI.1980, T. Goto leg. (KUM); 1 unsexed, ditto, 20.IV.1969, K. Kanmiya leg. (KUM); 1 unsexed, Mt. Wakasugi-yama, 17.IV.1932, K. Yasumatsu leg. (KUM); 1

unsexed, Chikushi-yabakei, Nakagawa-shi, 16.III.1986, S. Nomura leg. (KUM); 1 unsexed, Kôrasan, Kurume-shi, 1–7.IV.2011, S. Imasaka leg. (cI); **[Saga Pref.]**: 2 unsexed, Makishima-yama, Seto-chô, Imari-shi, 35 m, 24.II.2021, S. Kakizoe leg., from dog dung (KUM); 2 unsexed, Yuzuriha, Mitsuse-mura, Saga-shi, 400 m, 25.II.2021, S. Kakizoe leg., from dog dung (KUM); **[Nagasaki Pref.]**: 1 unsexed, Shimabara, 13.IV.1979, S. Imasaka leg. (KUM); 2 unsexed, Senbuki, Shimabara-shi, 4.XI.1977, S. Imasaka leg. (KUM); 1 unsexed, ditto, 27.XII.1977, S. Imasaka leg. (KUM); 1 male, Shitonezaki, Shikamachi-chô, 1.IV.1988, S. Nomura leg. (KUM); 1 unsexed, Suwa-shrine, Nagasaki-shi, 21.I.1984, S. Nomura leg. (KUM); **[Kumamoto Pref.]**: 1 male, 1 female, 2 unsexed, Ueki-chô, 22.XI.1988, S. Naomi leg. (KUM); 1 unsexed, Aso-shimizu-dani, 27.X.1993, Y. Tomishima leg. (KUM); 1 unsexed, Mt. Daikan-zan, Seiwa-mura, 3.XI.1994, I. Ohtsuka leg. (KUM); 1 unsexed, Tenshu-zan, Yabe-chô, 17.X.1994, Y. Tomishima leg. (KUM); 1 unsexed, Naidaijin, Yamato-machi, 22.X.1982, M. Matsuzaki leg. (KUM); 1 unsexed, Mt. Ichifusa-yama, Minakami-mura, 31.X.1982, M. Matsuzaki leg. (KUM); 1 unsexed, ditto, 13.X.1995, Y. Tomishima leg. (KUM); **[Ôita Pref.]**: 1 unsexed, Taiko-bashi, Kadota, Takeda-shi, 12.IV.2008, T. Miyazaki leg. (KUM); 1 female, Taiko-bashi-no-ana cave, Kadota, Takeda-shi, 322 m, 26.IV–10.V.2008, K. Ito leg. (KUM); 1 female, Kawanishi, Yufuin-chô, 6.XII.2003, T. Miyazaki leg. (KUM); 1 unsexed, Shin-yabakei, Nakatsu-shi, 30.III.1985, S. Nomura leg. (KUM); 9 unsexed, Mt. Kurotake, Yufu-shi, 1.XI.2021, S. Kakizoe leg., from rotten mushroom (KUM); **[Miyazaki Pref.]**: 1 unsexed, Mt. Takachiho-no-mine, 24.X.1977, M. T. Chujo leg. (KUM).

Distribution. Japan: Honshu, Shikoku, and Kyushu (Fig. 3).

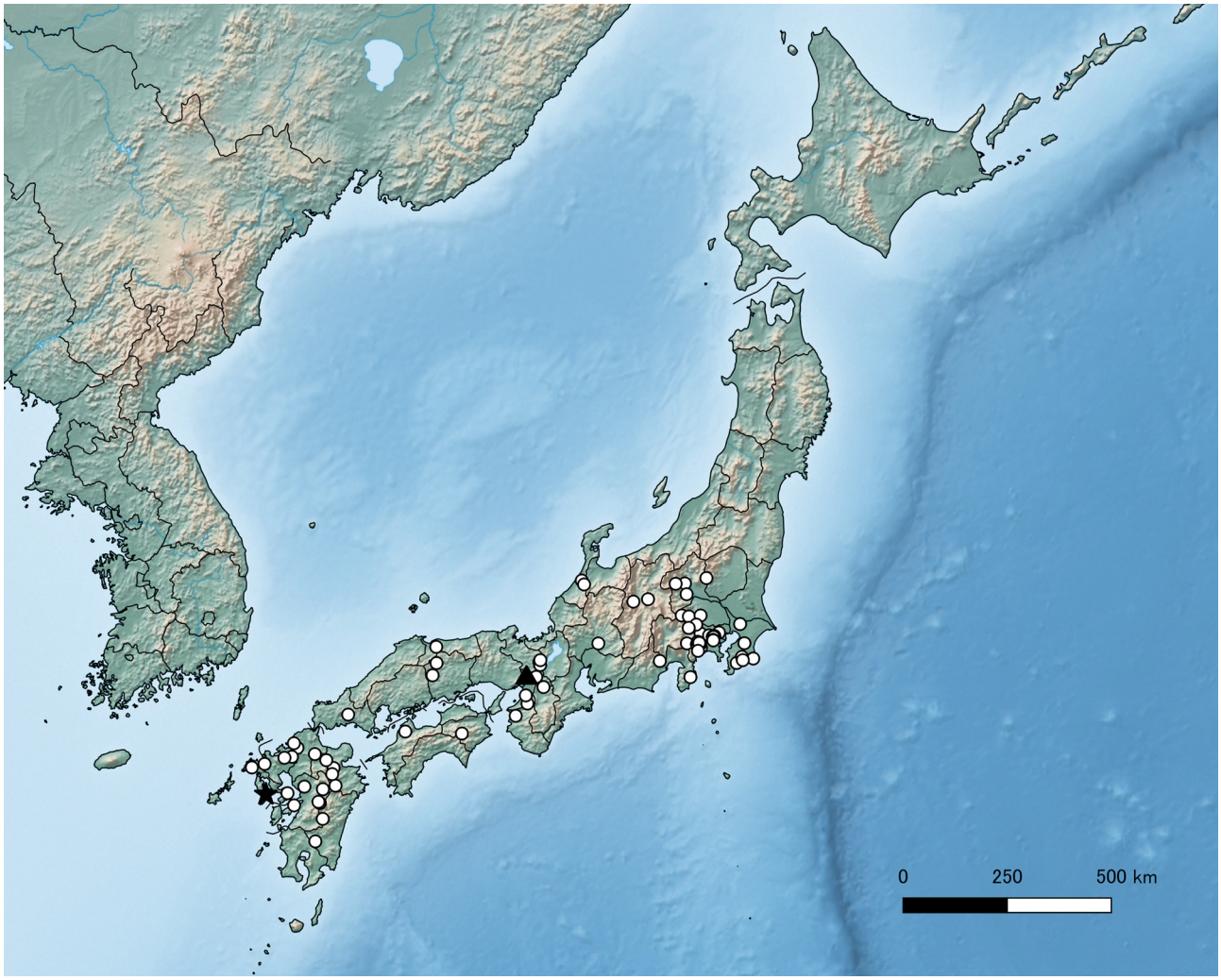

FIGURE 3. Distribution of *Plesiochara japonica* **comb. nov.**: black star, type locality of *P. japonica*; black triangle, type locality of *P. fusca* **syn. nov.**

Bionomics. The collecting records show that *Plesiochara japonica* is distributed in lowlands to mountainous areas. Adults appear in fall, winter, and spring (October–June), and are found in mushroom (e. g. *Omphalotus japonicus* (Kawam.) Kircham. & O. K. Mill), rotten vegetables, animal dropping, and fallen leaves.

Diagnosis. *Plesiochara japonica* is similar to *P. nitida* and *P. inflexa*, but can be distinguished by the following characters: legs shorter (HTL/PL = 1.13–1.20); hypomera with posterior part of carina directed posteriorly almost parallel to lateral margin; median lobe of aedeagus with apical lobe thick, bisinuate at ventral margin; sclerites 1 strongly convex and curved laterally at posterior margin; spermatheca with capsule spherical.

Remarks. According to the original description (Sharp 1874), there should be three syntypes from "Copper Temple, Nagasaki". However, only a male syntype was found in the Natural History Museum, London (BMNH), which MM photographed and dissected in 2011; it is designated as the lectotype herein. We compared the photograph of the dorsal habitus and drawing of the aedeagus of the lectotype examined by MM and other specimens from Japan and concluded that *P. fusca* is a junior synonym of *O. japonica*.

Plesiochara nitida Sawada, 1990

Japanese common name: Tsuya-kusabira-hanekakushi
(Figs 4A–F, 5, 12B)

Plesiochara nitida Sawada, 1990: [original description, type locality: Nikyu-kyo, nr. Kure, Hiroshima Pref.]; Smetana, 2004: 361 [catalogue]; Shibata *et al.*, 2013: 106 [catalogue]; Schülke & Smetana, 2015: 505 [catalogue].

Redescription. Body elongate; head, thorax and abdomen dark brown; antennae dark reddish brown, with basal part paler; mouth parts and legs reddish yellow; elytra reddish yellow with posterolateral portion darker; head, thorax, abdominal sternites, elytra, and legs covered with setae rather densely; abdominal tergites sparsely covered with setae; dorsal surface of head and pronotum densely covered with reticulation; elytra weakly rugose; abdominal tergites glossy.

Head circular, slightly longer than or as long as wide; postocular parts roundly narrowed toward base; eyes ovate. Antennae slender, longer than a combination of head and pronotum; segments IV–V slightly longer than wide; segments VI–VII as long as wide; segments VIII–IX slightly transverse; segments X as long as wide; segments XI ovate.

Pronotum almost hexagonal, slightly wider than long; anterior margin widely rounded; lateral margin moderately rounded, narrowed more strongly to posterior than anterior; anterior corners rounded; posterior corners obtusely angulated; hypomera visible in lateral view, with posterior part of carina (Fig. 12B) directed to posterolateral corners obliquely.

Mesoventrite shortly carinate at base of midline; inner coxal process narrow, elongate, reaching to metaventrite process. Metaventrite with inner coxal process short, moderately narrow.

Elytra wider than long, longer and wider than pronotum, weakly diverging to posteriorly, widest near posterolateral corners; hind margin sinuate near posterolateral corners. Hind wings developed.

Abdomen moderately elongate, parallel sided; tergites III–VII with pores at basal impression; VIII tergite with posterior margin smooth, shallowly emarginate medially in both sexes. VIII sternum with posterior margin smooth, widely rounded in both sexes.

Legs slender, long (HTL/PL = 1.35–1.47); surface of fore and middle tibia not covered with spines; hind tarsal segments I longer than a combination of II and III.

Male: Median lobe of aedeagus (Fig. 4B–E) rather large; apical lobe rather thin, weakly curved dorsally at apex, narrower, rather strongly constricted in ventral view at basal 1/3; apical lobe in lateral view; sclerites 1 convex at posterior margin, widely emarginate at anterior margin; sclerites 4 (sc4) rather indistinct, located at posterior apex of sclerites 2.

Female: Spermatheca (Fig. 4F) with capsule ovate, longer than chamber.

Measurements. BL 4.7–5.9, FBL 2.57–3.20, HW 0.75–0.85, HL 0.76–0.86, PW 0.84–1.13, PL 0.80–1.03, EW 1.23–1.48, EL 0.99–1.27, HTL 1.10–1.39.

Specimens examined. JAPAN: **Honshu**: **[Aomori Pref.]**: 1 unsexed, Shiroiwa, Osaki, Hirakawa-shi, 21.V.1994, T. Ozaki leg. (cI); **[Yamagata Pref.]**: 1 unsexed, Shirakozawa, Oguni-machi, 5.VI.2010, I, Matoba leg. (cI); **[Fukushima Pref.]**: 1 male, Noji-onsen, Fukushima-shi, 25.X.2003, T. Watanabe leg. (KUM); 1 male, 2 female, Futamata-onsen, Tenei-mura, 19.X.2003, S. Nomura leg. (KUM); **[Gunma Pref.]**: 1 male, 1 female, Tamahara-kogen, Kamihocchi-machi, Numata-shi, 26.X.2003, N. Kanai leg. (KUM); 1 female, Narahara, Ueno-mura, 8.IV.2007, T. Horiguchi leg. (KUM); 1 female, Akegasawa, Narahara, Ueno-mura, 30.IV.2007, T. Horiguchi leg. (KUM); 1

unsexed, Nagamine-koen, Shibukawa-shi, 16.IV.2003, N. Kanai leg. (KUM); **[Tochigi Pref.]**: 1 female, Mt. Shibakusa-yama, Nikko-shi, 9.IV.1995, H. Ohkawa leg. (KUM); **[Kanagawa Pref.]**: 1 female, Mt. Ôyama, 25.XII.1966, Y. Shibata leg. (KUM); **[Ishikawa Pref.]**: 1 male, Hiraguri, Kanazawa-shi, 21.IV.1983, Y. Hayashi leg. (KUM);

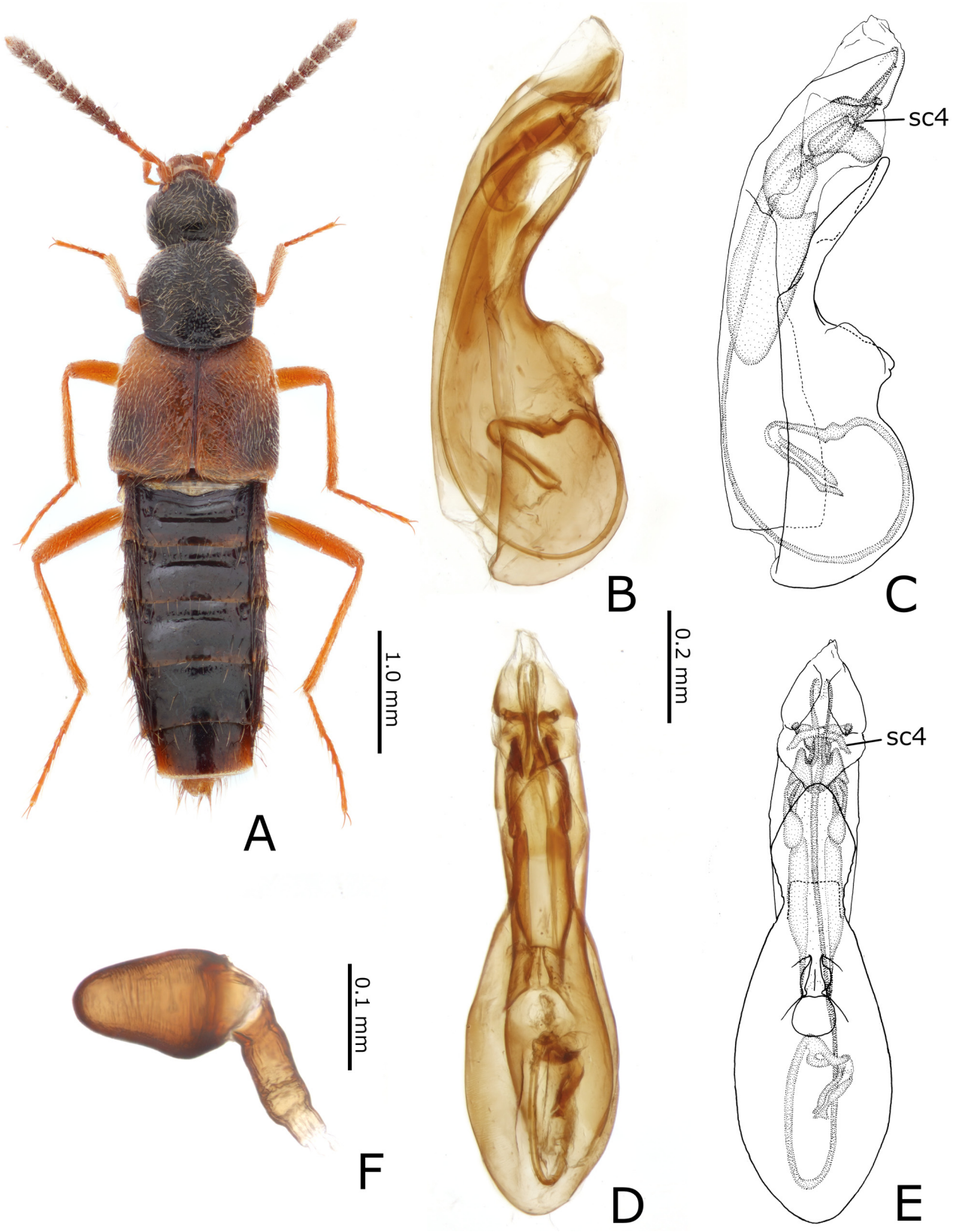

FIGURE 4. *Plesiochara nitida*: A, dorsal habitus; B–C, median lobe of aedeagus, lateral view; D–E, ditto, ventral view; F, spermatheca.

[Fukui Pref.]: 1 female, Hakuba-dô cave, Ôno-shi, 22.VII.2001, W. Takahashi leg. (KUM); **[Yamanashi Pref.]**: 1 male, near Dôsaka Tunnel, Dôshi-mura, 16.XI.1996, T. Watanabe leg. (KUM); **[Nagano Pref.]**: 1 unsexed, Shimashimadani, Matsumoto-shi, 900 m, 7–10.VI.2008, H. Asaki leg. (KUM); 1 unsexed, ditto, 800 m, 21–26.V.2008, H. Asaki leg. (KUM); 2 unsexed, ditto, 800 m, 10–16, X.2008, H. Asaki leg. (KUM); 2 male, 3 unsexed, Nagawa, Matsumoto-shi, 1500 m, 31.X–6.XI.2008, H. Asaki leg. (KUM); 1 male, 1 female, Konami, Suwa-shi, 6.III.2021, T. Hashizume leg. (KUM); **[Kyoto Pref.]**: 1 unsexed, Otokoyama, Yawata-shi, Kyoto Pref., 19.II.2011, T. Ito leg., by rotten vegetables trap (cI); **[Nara Pref.]**: 1 unsexed, Nara park, Nara-shi, 13.XII.1987, S. Takahashi leg. (cI); 1 male, Ôdaigahara, Kamikitayama-mura, 25.V–6.VI.1986, S. Naomi leg. (KUM); **[Wakayama Pref.]**: 1 unsexed, Hirai, Kozagawa-chô, 22.V.2008, I. Matoba leg. (cI); **[Okayama Pref.]**: 1 male, 1 female, Mt. Taki-yama, Nagi-chô, Katsuta-gun, 500–700 m, 16.III.2003, Y. Fujitani leg. (KUM); 1 male, ditto, 23.XI.2003, Y. Fujitani leg. (KUM); 1 female, ditto, 7.XII.2003, Y. Fujitani leg. (KUM); 1 female, ditto, 28.III.2004, Y. Fujitani leg. (KUM); **[Yamaguchi Pref.]**: 1 female, Nodani, Tokuji-chô, 31.III.2004, Y. Fujitani leg. (KUM); **Shikoku**: **[Tokushima Pref.]**: 2 male, 2 unsexed, Mt. Tsurugi-san, 15–17.X.1980, S. Naomi leg. (KUM); unsexed, ditto, 19–20.VI.1981, S. Naomi leg. (KUM); 11 unsexed, Mt. Maruzawa-yama, Ichiu-son, 1410 m, 11.VI–6.VIII.2000, M. Yoshida leg. (KUM); 1 unsexed, Nishinô-no-Mizuana cave, Aioi-chô, Naka, 26.IV.1986, H. Bando leg. (KUM); **[Ehime Pref.]**: 1 female, riverside of Fukumi-gawa river, Matsuyama-shi, 27.XI–3.XII.1986, M. Hiraoka leg. (KUM); 2 unsexed, ditto, 27.XI–3.XII.1986, M. Hiraoka leg. (KUM); **Kyushu**: **[Saga Pref.]**: 1 unsexed, Makishima-yama, Seto-chô, Imari-shi, 35 m, 24.II.2021, S. Kakizoe leg., from dog dung (KUM); **[Ôita Pref.]**: 1 male, Taiko-bashi-no-ana cave, Kadota, Takeda-shi, 322 m, 26.IV–10.V.2008, K. Ito leg. (KUM) (KUM); **Hirado Is.**: **[Nagasaki Pref.]**: 1 male, 1 female, 2 unsexed, Mt. Yasuman-dake, Yamanaka-chô, Hirado-shi, 420 m, 16.II.2021, S. Kakizoe & S. Inoue leg., from dog dung (KUM); **Tsushima Is.**: **[Nagasaki Pref.]**: 1 female, Meishinodan-yama, Uchiyama, Izuhara-machi, Tsushima-shi, 175 m, 20–21.II.2022, S. Kakizoe leg., from dog dung (KUM).

Distribution. Japan: Honshu, Shikoku, Kyushu, Hirado Is., and Tsushima Is. (Fig. 5).

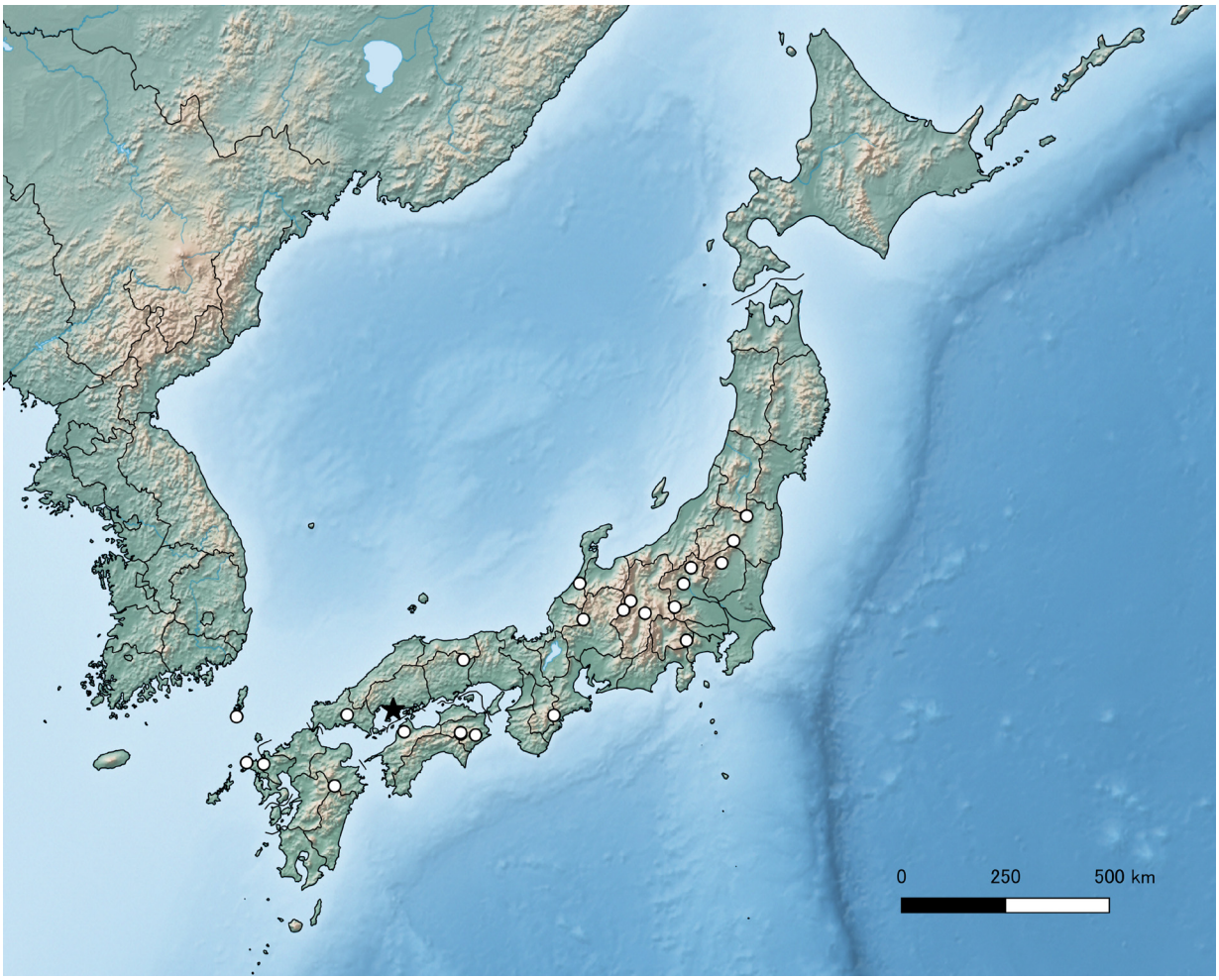

FIGURE 5. Distribution of *Plesiochara nitida*: black star, type locality.

Bionomics. The collecting records show that *Plesiochara nitida* is distributed in lowlands to mountainous areas. Adults appear in fall, winter, and spring (October–June) and are found in animal dropping and fallen leaves. Some specimens were collected in caves.

Diagnosis. *Plesiochara nitida* is similar to *P. japonica* and *P. inflexa*, but can be distinguished by genital parts: median lobe of aedeagus with apical lobe thin, weakly curved dorsally at apex; spermatheca with capsule ovate, large, longer than chamber.

***Plesiochara inflexa* sp. nov.**

Japanese common name: Nise-kusabira-hanekakushi

(Figs 6A–F, 7A–D, 8, 12D–F)

Description. Body elongate; head, thorax and abdomen dark brown; antennae dark reddish brown, with basal part paler; mouth parts and legs reddish yellow; elytra reddish yellow with posterolateral portion darker; head, thorax, abdominal sternites, elytra, and legs covered with setae rather densely; abdominal tergites sparsely covered with setae; dorsal surface of head and pronotum densely covered with reticulation; elytra weakly rugose; abdominal tergites glossy.

Head circular, slightly longer than or as long as wide; postocular parts roundly narrowed toward base; eyes ovate. Antennae slender, longer than a combination of head and pronotum; segments IV–V slightly longer than wide; segments VI–VII as long as wide; segments VIII–IX slightly transverse; segments X as long as wide; segments XI ovate.

Pronotum almost hexagonal, slightly wider than long; anterior margin widely rounded; lateral margin moderately rounded, narrowed more strongly to posterior than anterior; anterior corners rounded; posterior corners obtusely roundly angulated; hypomera visible in lateral view, with posterior part of carina (Fig. 12D–F) directed to posterolateral corners obliquely and curved inward at posterior end in most cases.

Mesoventrite shortly carinate at base of midline; inner coxal process narrow, elongate, reaching to metaventrite process. Metaventrite with inner coxal process short, moderately narrow.

Elytra wider than long, longer and wider than pronotum, weakly diverging to posteriorly, widest near posterolateral corners; hind margin sinuate near posterolateral corners. Hind wings developed.

Abdomen moderately elongate, parallel sided; tergites III–VII with small pores at basal impression; VIII tergite with posterior margin smooth, shallowly emarginate medially in both sexes. VIII sternum with posterior margin smooth, widely rounded in both sexes.

Legs slender, rather long (HTL/PL = 1.27–1.40); surface of fore and middle tibia not covered with spines; hind tarsal segments I longer than a combination of II and III.

Male: Median lobe of aedeagus (Fig. 6B–E) rather large; apical lobe rather thin, curved ventrally; sclerites 1 oblong, narrowed ventrally, curved posteriorly at ventral apex; one pair of sclerites 4 (sc4) rather distinct, located near apex of sclerites 2, strongly curved inward.

Female: Spermatheca (Fig. 6F) with capsule ovate, small, almost as long as chamber.

Measurements. BL 4.5–5.5, FBL 2.63–3.10, HW 0.74–0.77, HL 0.76–0.80, PW 0.93–1.07, PL 0.83–0.98, EW 1.33–1.44, EL 1.01–1.21, HTL 1.05–1.32.

Variation. Tanzawa mountains (Mt. Ishihodo-yama, Kanagawa Pref.; near Dôsaka tunnel, Yamanashi, Pref.): Hypomera with carina not curved inward at posterior end (Fig. 12F); legs longer; median lobe of aedeagus with apical lobe thin, rather weakly curved ventrally, narrower in ventral view (Fig. 7A–B). Shikoku (Mt. Tsurugi-san, Tokushima Pref.): median lobe of aedeagus with apical lobe thin, rather weakly curved ventrally, narrower in ventral view (Fig. 7C–D). Hypomeral carina curved weakly or not curved in eastern localities (Fig. 12E), curved strongly in northern localities (Fig. 12D).

Type materials. Holotype: male, Wakasugi forest, Nishiawakura-son, Okayama Pref., JAPAN, 22.X.2009, T. Ito leg., from mushroom (KUM). **Paratype**. **JAPAN**: **Hokkaido**: **[Hokkaido Pref.]**: 1 unsexed, Kiyosato-chô, 27.X.2009, K. Matsumoto leg. (cI); 1 unsexed, Kamimuri, Maruseppu-chô, 21.V.2000, M. Maruyama leg., from bear dung (KUM); 1 unsexed, Nagahashi, Naebo, Otaru-shi, 1.V.1992, M. Ôhara leg., by bait trap (KUM); 5 male, 3 female, 5 unsexed, ditto, 8.X.1992, M. Ôhara leg. By bait trap (OM, KUM); 2 unsexed, ditto, 15.X.1992, M. Ôhara leg. By bait trap (KUM); 3 female, 1 unsexed, ditto, 22.X.1992, M. Ôhara leg. By bait trap (OM, KUM); 2 male, 2 female, 1 unsexed, ditto, 29.X.1992, M. Ôhara leg. By bait trap (KUM); 1 male, ditto, 5.XI.1992, M. Ôhara leg.

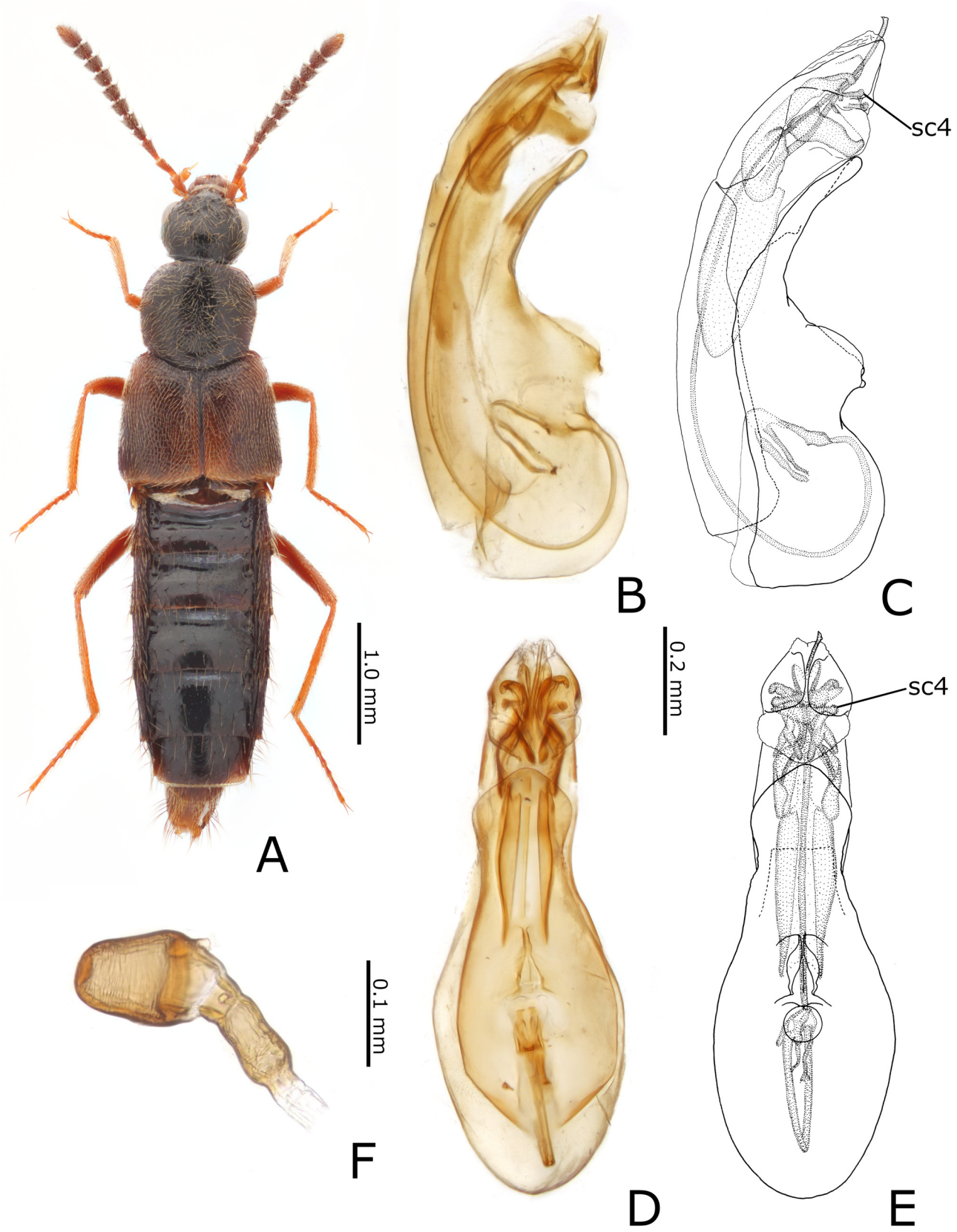

FIGURE 6. *Plesiochara inflexa* **sp. nov.**: A, dorsal habitus; B–C, median lobe of aedeagus, lateral view; D–E, ditto, ventral view; F, spermatheca.

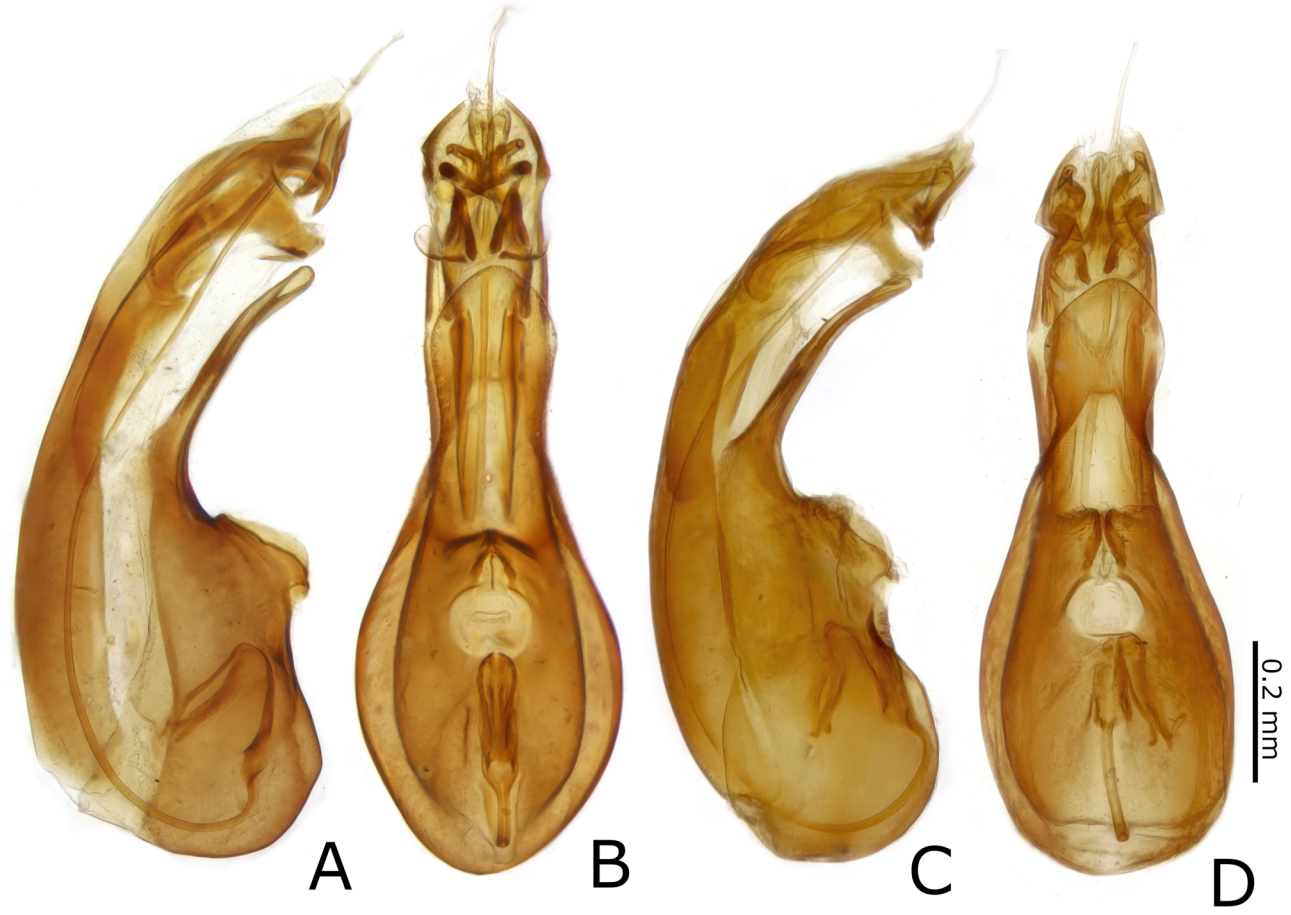

FIGURE 7. *Plesiochara inflexa* **sp. nov.**, variation of median lobe of aedeagus in lateral view (A, C) and ventral view (B, D): A–B, near Dôsaka tunnel, Dôshi-mura, Yamanashi Pref.; C–D, Mt. Tsurugi-san, Tokushima Pref.

By bait trap (KUM); 2 female, Kakkumi-chô, Hakodate-shi, 12.IV.2020, Y. Tasaku leg. (KUM); **Honshu**: **[Aomori Pref.]**: 1 male, Oirase, Fukaura-chô, 9.VII.1989, A. Abe leg. (KUM); **[Yamagata Pref.]**: 1 male, 1unsexed, Ichi-no-taki, Chôkai-zan, Sakata-shi, 10.X.2015, H. Ooki leg. (KUM, cO); **[Fukushima Pref.]**: 1 male, 1 unsexed, Futamata-onsen, Ten-ei-mura, 850 m, 19.X.2003, S. Nomura leg. (KUM); **[Tochigi Pref.]**: 1 female, Okukinu, Kuriyama-mura, 30.V.1991, S. Naomi leg. (KUM); **[Gunma Pref.]**: 1 male, 3 unsexed, Marunuma, Katashina-mura, 23.IX.1969, Y. Shibata leg. (KUM); 4 male, 1 female, Tamahara-kogen, Kamihocchi-machi, Numata-shi, 26.X.2003, N. Kanai leg. (KUM); 2 unsexed, Aratosawa, Mt. Hotaka-san, Katashina-mura, 950 m, 15.X.2000, H. Kamezawa leg. (KUM); 2 male, 1 unsexed, Kirizumi spa, Yasunaka-shi, 29.IV.1958, Y. Shibata leg. (KUM); 1 unsexed, ditto, 18.VI.1958, Y. Shibata leg. (KUM); **[Kanagawa Pref.]**: 6 males, 1 female, 3 unsexed, Mt. Ishihodo-yama, Yamakita-machi, Kanagawa Pref., 9.X.1995, T. Watanabe leg. (KUM). **[Toyama Pref.]**: 1 unsexed, Masagosawa, Mt. Tsurugi-dake, Tateyama-machi, 18.VII.1962, Y. Hayashi leg. (KUM); **[Fukui Pref.]**: 6 male, 2 female, 2 unsexed, Kôkura, Imajo-chô, 14–18.X.1996, K. Ishida *et al.* leg. (KUM); 1 male, Mt. Hyakuri-ga-take, Obama-shi, 5.V.1979, H. Sasaji leg. (KUM); **[Yamanashi Pref.]**: 1 unsexed, Norogawa-deai, Minami-Alps-shi, 3.VII.1980, H. Yamazaki leg. (KUM); 1 female, Kitazawa-tôge pass, Minami-Alps-shi, 28–30.VI.1980, H. Yamazaki leg. (KUM); 1 male, near Dôsaka tunnel, Dôshi-mura, 16.XI.1996, T. Watanabe leg. (KUM); **[Nagano Pref.]**: 1 unsexed, Hakuba-mura, 20.X.2007, T. Ito leg. (cI);3 unsexed, Norikura, Matsumoto-shi, 1500 m, 26.V–1.VI.2008, H. Asaki leg. (KUM); 1 unsexed, ditto, 2100 m, 27.VIII–02.IX.2008, H. Asaki leg. (KUM); 5 unsexed, ditto, 1800 m, 18–22.IX2008, H. Asaki leg. (KUM); 1 unsexed, Nagawa, Matsumoto-shi, 1500 m, 11–14.VI.2008, H. Asaki leg. (KUM); 4 unsexed, ditto, 1600 m, 10–16.IX.2008, H. Asaki leg. (KUM); 2 unsexed, ditto, 1500 m, 31.X–6.XI.2008, H. Asaki leg. (KUM); **[Gifu Pref.]**: 2 unsexed, Hirayu, Takayama-shi, 12.X.1980, K. Konishi leg. (KUM); 1 unsexed, Nishihotaka-guchi, Takayama-shi, 11.VI.1980 (KUM); 2 unsexed, Mannami River, Miyagawa, Hida-shi, 5.XI.1980, S. Saito

leg. (KUM); 1 male, 1 female, 4 unsexed, Ooshirakawa, Shirakawa-mura, 26.X.1980, Y. Takai leg. (KUM); 3 unsexed, Shirakawa-super-rindsuô, Shirakawa-mura, 11.X.1997, Y. Takai leg.; 3 unsexed, Magari–Sanpôiwa, Haku-san, Shirakawa-mura, 13.X.1996, Y. Takai leg.; 1 unsexed, Shirakawa-mura, 22.X.2006, K. Toyoshima leg. (cI); 1 unsexed, Mt. Fukube-ga-take, Minami-mura, Gujô-shi, 12.V.2002, A. Sugimura leg. (KUM); **[Kyoto Pref.]**:

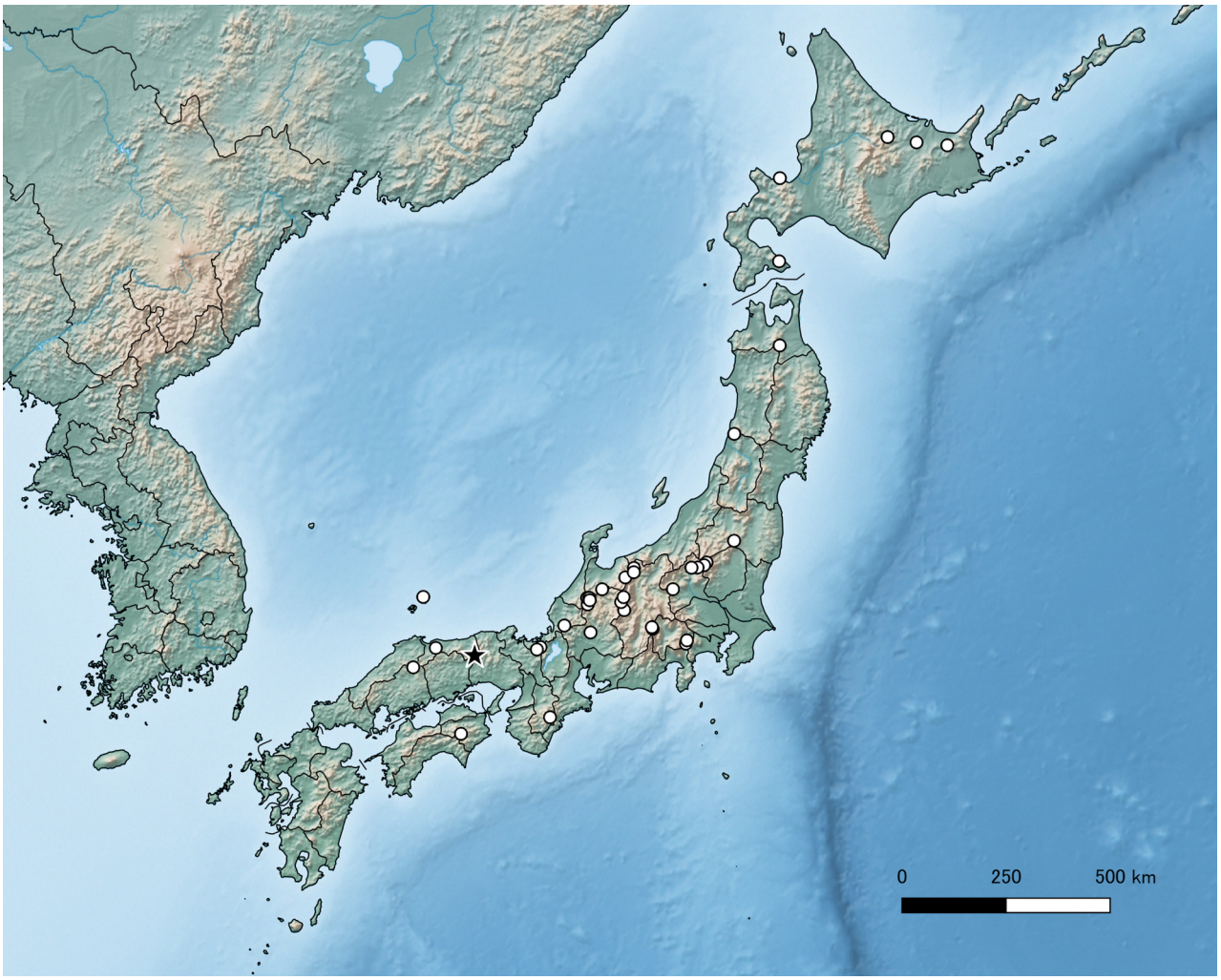

FIGURE 8. Distribution of *Plesiochara inflexa* **sp. nov.**: black star, type locality.

1 male, 1 female, Sugio-tôge pass, Ashiu, Nantan-shi, 15.X.1993, K. Setsuda leg., from *Omphalotus japonicus* (Kawam.) Kircham. & O. K. Mill. (KUM); **[Nara Pref.]**: Kamikitayama-mura, 4.X.2009, T. Ito leg., from mushroom (KUM, cI); **[Tottori Pref.]**: 3 female, 2 unsexed, Daisen, 8.XI.1977, S. Naomi leg. (KUM); **[Okayama Pref.]**: 1 male, 2 female, 4 unsexed, Wakasugi forest, Nishiawakura-son, 22.X.2009, T. Ito leg., from mushroom (KUM, cI); 1 male, Wakasugi-tôge pass, Nishiawakura-son 8.V.1977, Watanabe leg. (KUM); **[Hiroshima Pref.]**: 4 unsexed, Mt. Tateeboshi-yama, Saijô-chô, Shôbara-shi, 30.IV.2022, S. Inoue leg., by shifting leaf litter (KUM); **Oki Isls.**: **[Shimane Pref.]**: 1 male, Minamidani-rindo, Dougo, Okinoshima-chô, 10.XI.2004, T. Watanabe leg. (KUM); **Shikoku**: **[Tokushima Pref.]**: 4 male, 3 unsexed, Mt. Tsurugi-san, 15–17.X.1980, S. Naomi leg. (KUM).

Distribution. Japan: Hokkaido, Honshu, Oki Isls., and Shikoku (Fig. 8).

Bionomics. The collecting records show that *P. inflexa* is distributed in lowlands to mountainous areas of Hokkaido, and mountainous areas to subalpine areas in Honshu and Shikoku. Adults appear in fall and spring to early summer (late September–November, April–early July), and are found in mushroom (e. g. *Omphalotus japonicus* (Kawam.) Kircham. & O. K. Mill), animal droppings, and fallen leaves.

Diagnosis. *Plesiochara inflexa* is similar to *P. japonica* and *P. nitida* but can be distinguished by the sexual characters median lobe of aedeagus with apical lobe thin, entirely curved ventrally; sclerites 1 oblong narrowed ventrally, curved posteriorly at ventral apex; spermatheca with capsule ovate, almost as long as chamber.

Etymology. The specific name alludes to the shape of sclerites 4, which are strongly curved inwards.

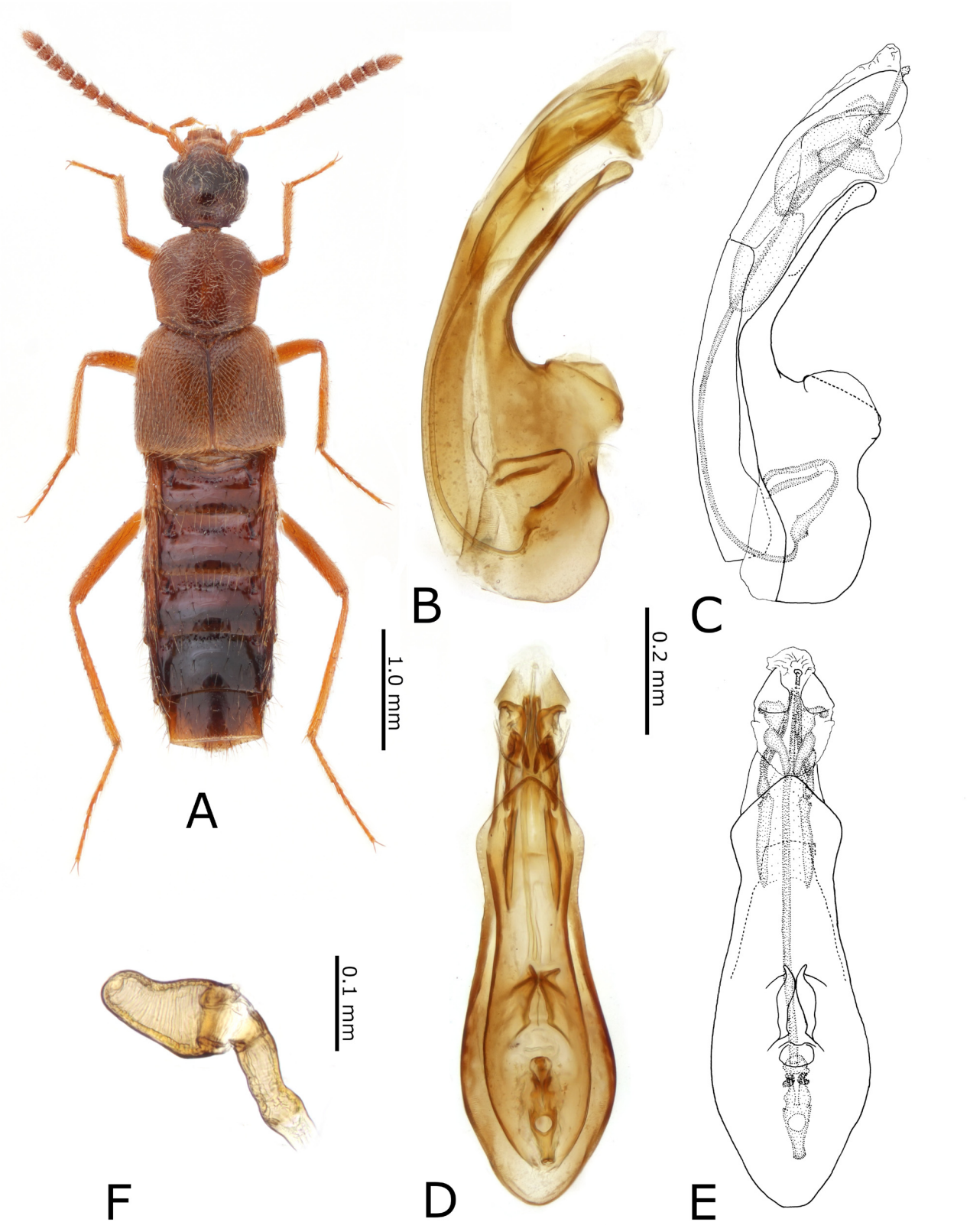

FIGURE 9. *Plesiochara rufula* **sp. nov.**: A, dorsal habitus; B–C, median lobe of aedeagus, lateral view; D–E, ditto, ventral view; F, spermatheca.

***Plesiochara rufula* sp. nov.**
Japanese common name: Aka-kusabira-hanekakushi
(Figs 9A–F, 10A–D, 11)

Description. Body elongate, head, thorax and abdomen reddish brown to light brown, darker in head and posterior part of abdomen; antennae reddish brown, with basal part paler; mouth parts and legs reddish yellow; elytra reddish yellow with posterolateral portion darker; head, thorax, abdominal sternites, elytra, and legs covered with setae rather densely; abdominal tergites sparsely covered with setae; dorsal surface of head and pronotum without reticulation; elytra weakly rugose; abdominal tergites glossy.

Head circular, slightly longer than or as long as wide; postocular parts roundly narrowed toward base; eyes ovate. Antennae slender, longer than a combination of head and pronotum; segments IV–V slightly longer than wide; segments VI–VII as long as wide; segments VIII–IX slightly transverse; segments X as long as wide; segments XI ovate.

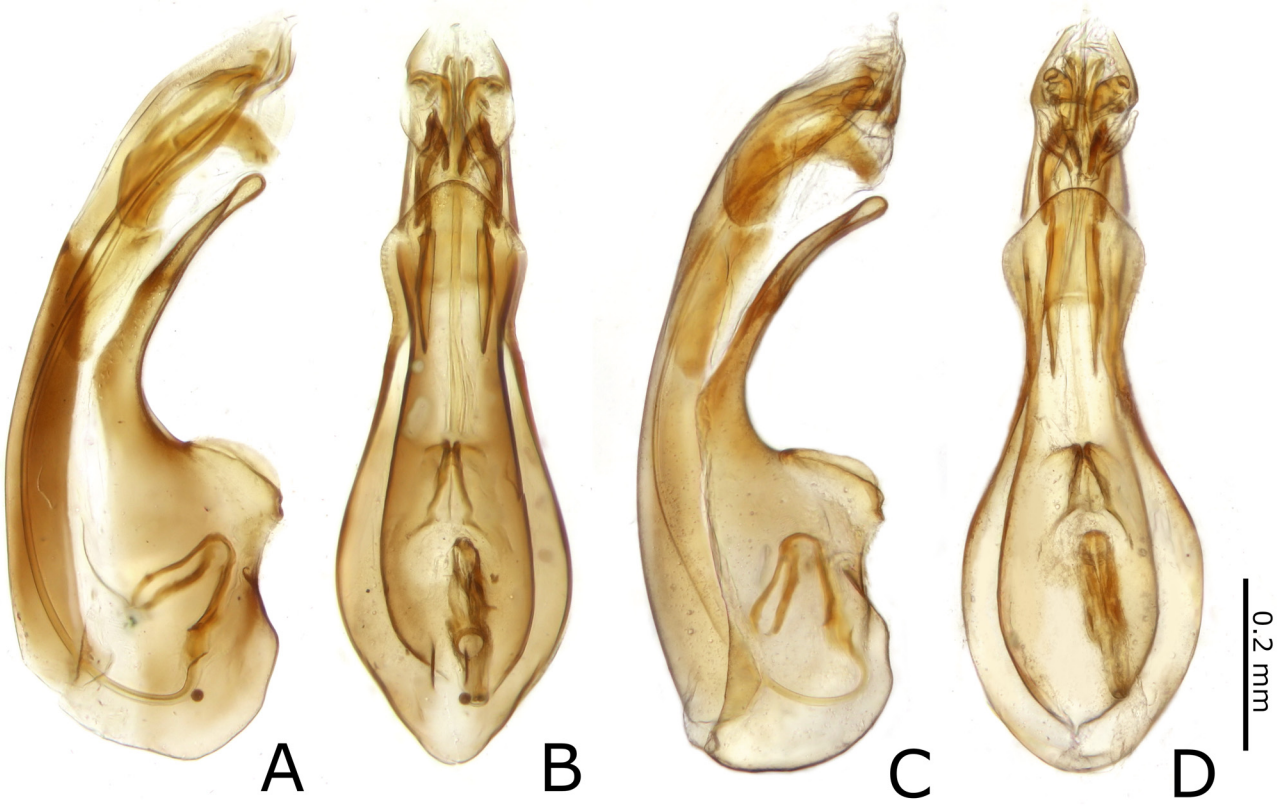

FIGURE 10. *Plesiochara rufula* **sp. nov.**, variation of median lobe of aedeagus in lateral view (A, C) and ventral view (B, D): A–B, Wakasugi forest, Nishiawakura-son, Okayama Pref.: C–D, Kirihagi, Yamato-chô, Kumamoto Pref.

Pronotum almost hexagonal, slightly wider than long; anterior margin widely rounded; lateral margin moderately rounded, narrowed more strongly to posterior than anterior; anterior corners rounded; posterior corners obtusely roundly angulated; hypomera visible in lateral view, with posterior part of carina directed to posterolateral corners obliquely.

Mesoventrite shortly carinate at base of midline; inner coxal process narrow, elongate, reaching to metaventrite process. Metaventrite with inner coxal process short, moderately narrow.

Elytra wider than long, longer and wider than pronotum, weakly diverging to posteriorly, widest near posterolateral corners; hind margin sinuate near posterolateral corners. Hind wings developed.

Abdomen moderately elongate, parallel sided; tergites III–VII with small pores at basal impression; VIII tergite with posterior margin smooth, shallowly emarginate medially in both sexes. VIII sternum with posterior margin smooth, widely rounded in both sexes.

Legs slender, rather long (HTL/PL = 1.41–1.54); surface of fore and middle tibia not covered with spines; hind tarsal segments I distinctly longer than combination of II and III.

Male: Median lobe of aedeagus (Figs 9B–E, 10A–D), rather small; apical lobe rather thin, curved ventrally; sclerites 1 convex at posterior margin; sclerites 4 indistinct; flagellum long.

Female: Spermatheca (Fig. 9F) with capsule ovate, almost as long as chamber.

Variation. Honshu: Median lobe of aedeagus with apical lobe not thickened at apex, moderately constricted in ventral view (Fig. 10A–B). Shikoku: Median lobe of aedeagus with apical lobe thickened at apex, moderately constricted in ventral view (Fig. 9B–D). Kyushu: Median lobe of aedeagus with apical lobe not thickened at apex, constricted rather strongly in ventral view (Fig. 10C–D).

Measurements. BL 4.4–5.5, FBL 2.50–3.07, HW 0.65–0.75, HL 0.69–0.78, PW 0.85–0.98, PL 0.78–0.90, EW 1.17–1.36, EL 0.92–1.14, HTL 1.12–1.35.

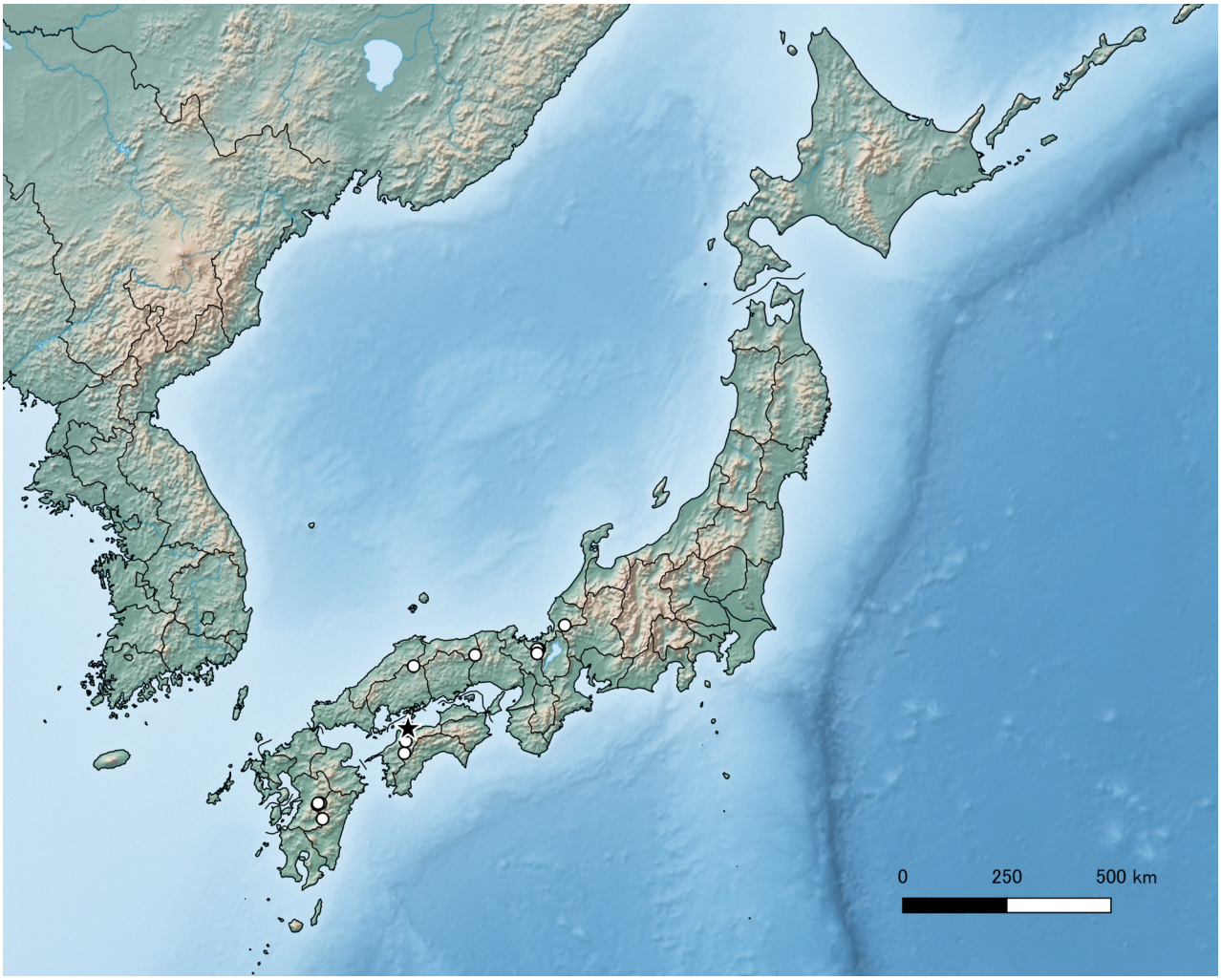

FIGURE 11. Distribution of *Plesiochara rufula* **sp. nov.**: black star, type locarity.

Type materials. **Holotype**: 1 male, Mt. Narabara-yama, 3.XI.1968, M. Takagi leg. (KUM). **Paratype**: **JAPAN**: **Honshu**: **[Fukui Pref.]**: 2 female, Kôkura, Imajo-chô, 14–18.X.1996, K. Ishida leg. (KUM); **[Shiga Pref.]**: 1 unsexed, Oisugi forest, Kutsuki, 28.X.2008, T. Ito leg. (cI); **[Kyoto Pref.]**: 5 male, 6 female, 1 unsexed, Sugiotôge pass, Ashiu, Nantan-shi, 15.X.1993, K. Setsuda leg., from *Omphalotus japonicus* (Kawam.) Kircham. & O. K. Mill. (KUM); 1 unsexed, Sasari-tôge pass, 26.X.2006, T. Ito leg. (cI); **[Okayama Pref.]**: 1 male, 3 unsexed, Wakasugi Forest, Nishiawakura-son, 22.X.2009, T. Ito leg., from mushroom (KUM, cI); **[Hiroshima Pref.]**: 2 male, 90 unsexed, Mt. Tateeboshi-yama, Saijô-chô, Shôbara-shi, 1175 m, 14.X.2019, Y. Senda leg., from *Omphalotus japonicus* (Kawam.) Kircham. & O. K. Mill. (HMNH, KUM); 1 unsexed, ditto, 30.IV.2022, S. Inoue leg., by shifting leaf litter (KUM); **Shikoku**: **[Ehime Pref.]**: 3 male, 3 female, 5 unsexed, Mt. Narabara-yama, 3.XI.1968, M. Takagi leg. (HMNH, KUM); 1 male, 1 unsexed, Mt. Shiratsue, Matsuyama-shi, 780 m, 10–23.X.1986, T. Nagata leg. (HMNH, KUM); 1 male, 1 unsexed, Mt. Koya, Nomura-chô, Seiyo City, 1250–1300 m, 28.XI.2008, T. Kurihara leg. (HMNH, KUM); 2 unsexed, Saragamine, Kumakôgen Town, 1100–1270 m, 4.X.2008, T. Kurihara leg.

(HMNH, KUM); **Kyushu**: **[Kumamoto Pref.]**: 3 male, 2 female, 4 unsexed, Kirihagi, Yamato-chô, 15.X.1993, Y. Tomishima leg. (KUM); 2 unsexed, Mt. Heike-yama, Gokanosho, Yashiro-shi, 17.X.1988, S. Naomi leg. (KUM); 1 male, Naidaijin, Yamato-chô, 22.X.1982, M. Matsuzaki leg. (KUM); 1 male, 1 female, 3 unsexed, Mt. Ichifusa-yama, Minakami-mura, 13.X.1995, Y. Tomishima leg. (KUM).

Distribution. Japan: Honshu, Shikoku, and Kyushu (Fig. 11).

Bionomics. The collecting records show that *P. rufula* is distributed in mountainous areas. Adults appear in fall and spring (October–November, April), and are found in mushroom (e. g. *Omphalotus japonicus*) and fallen leaves.

Diagnosis. *P. rufula* can be easily distinguished from other congeners by the following character states: head, thorax, and abdomen reddish brown to light brown, darker in head and posterior part of abdomen; dorsal surface of head and pronotum without reticulation; basal impressions of abdominal tergites III–VII with large pores. *P. rufula* is similar to *P. inflexa* regarding the median lobe of the aedeagus, but can be distinguished by the following characters: size smaller; sclerites 1 convex at posterior margin, not curved posteriorly at ventral apex; sclerites 4 indistinct.

Etymology. The specific name alludes to the reddish body.

Key to species of *Plesiochara*

1 Head, thorax and abdomen dark brown (Figs 1A, 4A, 6A); dorsal surface of head and pronotum with reticulation; basal impression of abdominal tergites III–VII with pores small to medium 2

\- Head, thorax and abdomen reddish brown to light brown, darker in head and posterior part of abdomen (Fig. 9A); dorsal surface of head and pronotum without reticulation; basal impression of abdominal tergites III–VII with pores large; legs longer (HTL/PL = 1.41–1.54) . . . . . *P. rufula* **sp. nov.**

2 Hypomera with posterior part of carina directed posteriorly almost paralleled to lateral margin (Fig. 12A); legs shorter (HTL/PL 1.13–1.20); median lobe of aedeagus with apical lobe thick; sclerites 1 strongly convex and curved laterally at posterior margin (Fig. 1B–E); spermatheca with capsule spherical . . . . . *P. japonica* **comb. nov.**

\- Hypomera with posterior part of carina directed to posterolateral corners obliquely (Fig. 12B, D–F); legs longer (HTL/PL 1.27–1.47); median lobe of aedeagus thin; sclerites 1 not as above (Fig. 4B–E, 6B–E); spermatheca with capsule ovate (Fig. 4F, 6F). 3

3 Hypomera with carina not curved inward at posterior end (Fig. 12B); legs longer (HTL/PL = 1.35–1.47); median lobe of aedeagus with apical lobe weakly curved dorsally at apex, curved ventrally at base (Fig. 4B–E); spermatheca with capsule longer than chamber (Fig. 4F) . . . . . *P. nitida*

\- Hypomera with carina curved inward at posterior end in most cases (Fig. 12D–E); legs rather longer (HTL/PL = 1.27–1.40); median lobe of aedeagus with apical lobe entirely curved ventrally (Fig. 6B–E); spermatheca with capsule almost as long as chamber (Fig. 6F) . . . . . *P. inflexa* **sp. nov.**

Discussion

Based on a large number of specimens, we identified four species of *Plesiochara* in Japan and obtained information on their distributions. The most common species, *Plesiochara japonica*, occurs in lowlands to mountainous areas of Honshu, Shikoku, and Kyushu (Fig. 3). *Plesiochara nitida* is distributed in lowlands to mountainous areas of Honshu, Shikoku, Kyushu, Hirado, and Tsushima (Fig. 5) and generally overlaps with the distribution of *P. japonica*, but is collected less frequently. *Plesiochara inflexa* is distributed in lowlands to mountainous areas of Hokkaido and mountainous to subalpine areas of Honshu and Shikoku (Fig. 8), which suggests that this species is adapted to cooler temperate zones. Intriguingly, *P. inflexa* is also found in the Oki Islands, where the highest elevation is 608 m. *Plesiochara rufula* is distributed in mountainous areas of western Honshu, Shikoku, and Kyushu; the eastern-most location is Fukui Prefecture (Fig. 11). In Shikoku, *P. inflexa* was collected on Mt. Tsurugi-san, which is east of Shikoku, while *P. rufula* was collected in the western mountains. All the *Plesiochara* species were collected together with other congeners where their distributions overlap.

No information on the feeding habitats of *Plesiochara* was available. However, the data showed that the *Plesiochara* species are attracted to various organic materials, i.e., soft mushrooms, animal droppings, and decayed vegetables, which suggests that *Plesiochara* preys on small arthropods that occur on them. As the larvae of the related genus *Aleochara* are known ectoparasitoids of pupae of cyclorrhapheous Diptera in most subgenera (e.g., Maus *et*

al. 1998), *Plesiochara*, too, may have such a life history. The collection data also show that *Plesiochara* species mostly appear in the cooler conditions of late fall (October–November) and spring (April–May), and disappear in summer. *Plesiochara japonica* and *P. nitida* also appear in winter (December–March).

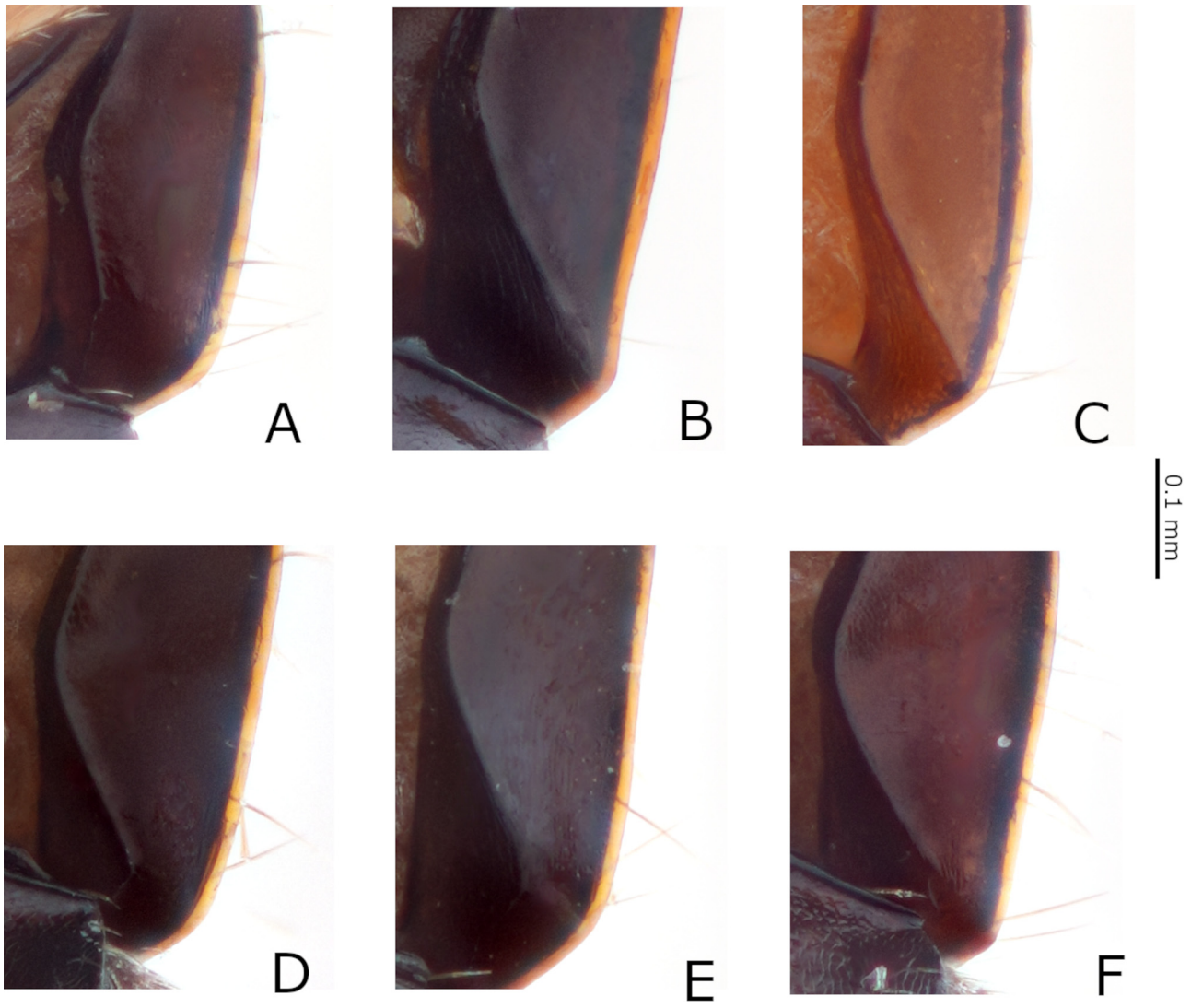

FIGURE 12. Posterior part of hypomera: A, *Plesiochara japonica* **comb. nov.**; B, *P. nitida*; C, *P. rufula* **sp. nov.**; D–F, *P. inflexa* **sp. nov.**: D, Nagahashi, Otaru-shi, Hokkaido Pref.; E, Wakasugi forest, Nishiawakura-son, Okayama Pref.; F, near Dôsaka tunnel, Dôshi-mura, Yamanashi Pref.

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